

Claims

What is claimed:

5 1. A process for preparing a visco-elastic polyurethane foam at an NCO index of 70-120 by reacting :

 a) a polyisocyanate composition;

 b1) a polyoxyethylene-polyoxypropylene polyol, having an average nominal hydroxy functionality of 2-6, where the EO is present as random EO and/or tipped EO, the
10 total EO content being at least 50 % by weight;

 b2) a polyoxyethylene-polyoxypropylene polyol, having an average nominal hydroxy functionality of 2-6, where the EO is present as tipped EO and/or random EO, the total EO content being between 20 and 50 % by weight, having a primary hydroxy content of at least 50% calculated on the amount of primary and secondary hydroxyl groups;

15 b3) a polyoxyethylene-polyoxypropylene polyol, having an average nominal hydroxyl functionality of 2-6, having a primary hydroxy content of at least 50% calculated on the amount of primary and secondary hydroxyl groups, and having an EO content of from 10 to 20 % by weight;

 b4) a polyoxyalkyleneglycol having an average molecular weight from 100 to
20 1200;

 b5) a polyoxyalkylene monool having a molecular weight of at least 120;

 these compounds b1, b2, b3, b4 and b5 being reacted according to the following proportions, based on the combined weights of b1, b2, b3, b4 and b5, b1 : 30-85 wt %, b2 : 5-50 wt %, b3 : 2-30 wt %, b4 : 0-50 wt %, b5: 1-20 wt %;

25 c) water; and optionally

 d) additives and auxiliaries known per se.

 2. The process of claim 1, wherein compounds b1, b2, b3, b4 and b5 are reacted according to the following proportions, based on the combined weights of b1, b2, b3, b4 and
30 b5: b1 : 40-80 wt %, b2 : 5-30 wt %, b3 : 2-20 wt %, b4 : 10-40 wt % and b5: 1-15 wt%.

3. The process of claim 1, wherein the functionality of the polyols b1, b2 and b3 is 2-4 and the EO content of the polyol and the monool based on the combined weights of b1, b2, b3, b4 and b5 is at least 40% by weight.

5 4. The process of claim 2, wherein the functionality of the polyols b1, b2 and b3 is 2-4 and the EO content of the polyol and the monool based on the combined weights of b1, b2, b3, b4 and b5 is at least 40% by weight.

10 5. The process of claim 1, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

6. The process of claim 2, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

15 7. The process of claim 3, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

20 8. The process of claim 4, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

9. The process of claim 1, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

25 10. The process of claim 2, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

30 11. The process of claim 3, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

12. The process of claim 4, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

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13. The process of claim 5, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

10 14. The process of claim 6, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

15 15. The process of claim 7, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

20 16. The process of claim 8, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

17. A polyol composition comprising:

25 b1) a polyoxyethylene-polyoxypropylene polyol, having an average nominal hydroxy functionality of 2-6, where the EO is present as random EO and/or tipped EO, the total EO content being at least 50 % by weight;

b2) a polyoxyethylene-polyoxypropylene polyol, having an average nominal hydroxy functionality of 2-6, where the EO is present as tipped EO and/or random EO, the total EO content being between 20 and 50 % by weight, having a primary hydroxy content of at least 50% calculated on the amount of primary and secondary hydroxyl groups;

30 b3) a polyoxyethylene-polyoxypropylene polyol, having an average nominal hydroxyl functionality of 2-6, having a primary hydroxy content of at least 50% calculated on

the amount of primary and secondary hydroxyl groups and having an EO content of from 10 to 20 % by weight;

b4) a polyoxyalkyleneglycol having an average molecular weight from 100 to 1200;

5 b5) a polyoxyalkylene monool having a molecular weight of at least 120;

these compounds b1, b2, b3, b4 and b5 being present according to the following proportions, based on the combined weights of b1, b2, b3, b4 and b5, b1 : 30-85 wt %, b2 : 5-50 wt %, b3 : 2-30 wt %, b4 : 0-50 wt %, b5: 1-20 wt %;

10 18. The polyol composition of claim 17, wherein polyols b1, b2, b3, b4 and b5 are present according to the following proportions, based on the combined weights of b1, b2, b3, b4 and b5: b1 : 40-80 wt %, b2 : 5-30 wt %, b3 : 2-20 wt %, b4 : 10-40 wt %, b5 : 1-15 wt %.

15 19. The polyol composition of claim 17, wherein the EO content based on the combined weights of b1, b2, b3, b4 and b5 is at least 40% by weight.

20. The polyol composition of claim 18, wherein the EO content based on the combined weights of b1, b2, b3, b4 and b5 is at least 40% by weight.

20 21. The polyol composition of claim 17, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

25 22. The polyol composition of claim 18, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

30 23. The polyol composition of claim 19, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

24. The polyol composition of claim 20, wherein the monool b5 is a polyoxyethylene polyoxypropylene or polyoxyethylene monool having a molecular weight of 200-900.

5 **25.** The polyol composition of claim 17, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

10 **26.** The polyol composition of claim 18, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

15 **27.** The polyol composition of claim 19, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.

20 **28.** The polyol composition of claim 21, wherein the monool b5 is a polyoxyethylene polyoxypropylene monool comprising at least 50 % by weight, based on the weight of the monool, of oxyethylene groups or a polyoxyethylene monool or mixtures thereof.